

VIII. We Claim:

- 5 *ruban*
1. A circuit board including:
 - a base;
 - a conductive layer adjacent to the base;
 - a dielectric material adjacent to conductive layer;
 - a tooth structure including a metal layer set in the dielectric material to join the dielectric material to the metal layer; and
 - 10 wherein the metal layer forms a portion of circuitry in a circuit board having multiple layers of circuitry.
 2. The electrical device of claim 1, wherein the layers have a peel strength greater than the peel strength of a single desmear process.
 3. The electrical device of claim 1, wherein the circuitry
 - 15 includes at least one micro via formed in the dielectric material.
 4. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 20% of the teeth are obtuse shaped.
 5. The electrical device of claim 1, wherein the tooth structure
 - 20 includes teeth and in a sample of the electrical device, at least 50% of the teeth are obtuse shaped.
 6. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 20% of the teeth are within the range of at least 1 tenth of a mil deep to 2 tenths of a mil deep.
 - 25 7. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 50% of the teeth are at least 1 tenth of a mil deep to 2 tenths of a mil deep.
 8. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 20% of the teeth
 - 30 are in the range of at least 1.5 tenths of a mil deep to 1.75 tenths of a mil deep.
 9. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 50% of the teeth are in the range of at least 1.5 tenths of a mil deep to 1.75 tenths of a mil deep.

10. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 5,000 teeth per linear inch can be found.

11. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 10,000 teeth per linear inch can be found.

12. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 15,000 teeth per linear inch can be found.

13. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 25,000 teeth per square inch can be found.

14. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 100,000 teeth per square inch can be found.

15. The electrical device of claim 1, wherein the tooth structure includes teeth and in a sample of the electrical device, at least 200,000 teeth per square inch can be found.

16. The electrical device of claim 1, further including a second tooth structure that is not set in the dielectric material.

17. The electrical device of claim 1, further including a second tooth structure a tooth structure including the conductive layer set in the dielectric material to join the conductive layer to the dielectric material; wherein, the second tooth structure formed by an oxide replacement process; and wherein

the electrical circuitry includes a connection through a micro via.

18. The electrical device of claim 1, wherein the tooth structure is formed by a direct plate process.

19. The electrical device of claim 1, wherein the tooth structure is formed by a double desmear process.